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Marketing Activities

U.S. DEPARTMENT OF AGRICULTURE

Production and Marketing Administration

IN THIS ISSUE:

Purpose of the new Research and Marketing Service Act: The development of new uses for agricultural products, the expansion of present uses, and the improvement of marketing facilities and services to keep agricultural progress abreast of the industrial achievements that have been made possible through research.

In which the author, who heads BAE's Division of Marketing and Transportation Research, looks at some of our marketing developments, including attempts at changing consumer spending patterns, new kinds and forms of food and new manufacturing processes, new industrial uses for food, improvements in food quality, and reductions in marketing costs.

There hasn't been enough ice all the time during the last year and a half. Here are some of the why's, and what was done about them.

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More Research for Agriculture

. . . . By Grace E. M. Waite

The manufacturing industry knows the value of scientific research. The laboratories of our large industrial concerns are constantly developing better automobiles, electrical appliances, textiles, metals, plastics, and the many other products that have made the American standard of living the highest in the world.

Nor has agriculture been unaware of the dividends that come from research. Hybrid seed corn; tuberculosis elimination in cattle; hybrid livestock and poultry that produce more and better food with less feed; soybeans and alfalfa as staple crops; and DDT--these developments are only a few of the advances made through research in agricultural production.

Some headway, too, has been made in marketing research. For cotton, for example, new outlets have been developed, the automatic sampler provides better sampling techniques, and packaging in standard density bales at the gin reduces marketing costs. Grades have been developed for various agricultural products including wool, tobacco, fruits, and vegetables to bring producers better prices and promote orderly marketing.

The Research and Marketing Service Act

But under legislation passed during the last session of Congress, a much broader program of agricultural research is assured. Known as the Research and Marketing Service Act of 1946, it provides for the development of new uses for agricultural products, the expansion of present uses, and the improvement of marketing facilities and services to keep agricultural progress abreast of the industrial achievements made possible through research.

The act broadens the scope of the Bankhead-Jones Act of 1935, which provided for research into basic laws and principles relating to agriculture and for greater endowment and support of the land-grant colleges. Under the new act, research can be done on problems that exist now and those that develop later.

Title I of the act covers production research. This research includes--

(1) Discovery, introduction, and breeding of new native and foreign agricultural crops, plants, and animals, particularly those that may be utilized in the chemical and manufacturing industries.

(2) Conservation of land, forest, and water resources for agricultural purposes.

(3) Design, development, and more efficient use of farm homes, buildings, and machinery.

(4) Investigation of human nutrition and the nutritive value of agricultural commodities.

(5) Investigation of gains or losses in nutritive value that take place in production, distribution, processing, and preparation for consumer use.

(6) Discovery of new and extended markets for agricultural commodities and byproducts--particularly those where production exceeds demand. Maximum use is to be made of existing research facilities owned or controlled by the Federal Government, State agricultural experiment stations, and Federal and State extension services.

To the States, Territories, and Puerto Rico for additional research on all types of farm problems, payments are authorized under title I ranging from 2.5 million dollars to be appropriated in 1947 to 20 million dollars in 1951 and thereafter (plus such amounts after 1951 as Congress deems necessary). Puerto Rico and each State and Territory must match with their own funds the payments made from certain percentages of the amount to be appropriated. Not less than 20 percent of the funds authorized to be appropriated are to be used by State agricultural experiment stations for conducting marketing research projects approved by the U. S. Department of Agriculture.

New Uses and Cooperative Projects

For further research in connection with present, new, and extended uses of agricultural commodities and products, appropriations are authorized ranging from 3 million dollars in 1947 to 15 million in 1951 and thereafter (plus such amounts after 1951 as Congress deems necessary). Utilization research is to be conducted so far as it is practicable at laboratories of the U. S. Department of Agriculture, but if need be the Secretary of Agriculture may make research contracts with qualified public or private organizations to do the work.

For cooperative projects (between the Secretary of Agriculture and experiment stations and other agencies) that conduct research other than utilization research, title I authorizes appropriations ranging from 1.5 million dollars to be made in 1947 to 6 million in 1950, and as much additional thereafter as Congress deems necessary.

Title II makes possible, in the language of the law, "a scientific approach to the problems of marketing, transportation, and distribution of agricultural products similar to the scientific methods which have been utilized so successfully during the past 84 years in connection with the production of agricultural products."

To carry out the intent of Congress, the Secretary of Agriculture is authorized--

(1) To carry on research to determine the best methods of processing, preparing for market, packaging, handling, transporting, storing, and distributing farm products.

(2) To determine marketing costs.

(3) To develop and improve standards of quality.

(4) To conduct studies and informational programs designed to eliminate artificial trade barriers.

(5) To develop new or expanded markets--both domestic and foreign--and new and expanded uses for farm products.

(6) To conduct and cooperate in consumer education.

(7) To collect and disseminate marketing information, including adequate outlook information on a market area basis.

(8) To inspect, grade, or classify agricultural products shipped in interstate commerce.

(9) To determine the needs and assist in developing plans for efficient market facilities.

(10) To assist in improving transportation services and facilities and in obtaining equitable transportation rates and services.

(11) To collect and disseminate marketing statistics.

(12) To develop and promulgate procurement standards and specifications for agricultural products.

Marketing Research and Services

To conduct such marketing research and service, the making of appropriations ranging from 2.5 million dollars in 1947 to 20 million in 1951 and thereafter is authorized (plus as much after 1951 as Congress deems necessary). From these funds the Secretary of Agriculture is authorized to make available an amount he considers appropriate for allotment to State departments of agriculture, State bureaus and departments of markets, State agricultural experiment stations, and other appropriate State agencies for cooperative projects in marketing services and marketing research, provided these agencies match the Federal contribution. In carrying out the projects, the Secretary is authorized to cooperate with other branches of the Government, State agencies, private research

organizations, purchasing and consuming organizations, boards of trade, chambers of commerce, and other business or trade organizations. And he may make agreements with States and agencies of States, private firms, institutions, and individuals for the purpose of conducting research and service work.

Title III provides for the establishment of a national advisory committee to be named by the Secretary, consisting of 11 members, 6 of whom are to be producer representatives. The committee will make recommendations regarding research and service work and assist in obtaining cooperation among Federal and State agencies, producers, farm organizations, and private industry.

Marketing Problems

It is now clear that unless marketing research shows us how to improve agricultural distribution processes, many of the improvements resulting from research on production will count for little. We have found that bigger and better crops may be a drug on the market. Until marketing and distribution are economical and orderly there will be unbalance and waste, and loss to both producer and consumer.

Today there is relatively little information to be had on the costs, wastes, and weakness in marketing and distributing farm products. Surveys, analyses, and other research on their handling all the way from farm to consumer, including methods of processing, preparing for market, packaging, transporting, storing, marketing, distributing, and developing new outlets, are needed to reduce the price spread.

In June 1946 farmers received 53 cents of the consumer's food dollar—a decline of about $3\frac{1}{2}$ percent from the record level of 55 cents. Marketing charges, including Government subsidies, absorbed the remainder. Since 1913 the farmer's share of the consumer's food dollar has averaged around 40 cents. Marketing research should be able to point the way to reduced marketing costs and increased farmers' profits.

Intensive research is needed on interstate trade restrictions. To protect home farmers, dealers, and consumers, the States have passed a great many laws and regulations affecting the production of agricultural products and their interstate and intrastate movement. While protecting State interests, however, some regulations discriminate against products of other States, tend to hamper interstate movement of agricultural products, and restrict free trade in the country as a whole. Thus, to protect its milk producers, a State may limit the health and sanitary inspection of milk, cream, or other dairy products produced outside the State. Such a restriction may cause other States to retaliate, with a resulting limiting of consumer supplies, raising of prices, and restricting of the producer's market. More and more, agricultural products are being produced in specialized areas. If we are to get the best utilization of over-all production and cut down price spreads between farmer and consumer, these products must move freely in interstate commerce.

Interstate and intrastate railroad and motor vehicle rates have been another much-contested subject. The tendency has been to give the advantage to intrastate rather than interstate movement of products. Even more serious are the discrepancies in interregional freight rates. Motor vehicle legislation on registration and taxes, regulation of weights, size, and equipment, and port-of-entry laws also harass interstate movement of agricultural commodities.

Another problem occurs when merchant-truckers and farmers markets disturb organized marketing by selling to established wholesalers or directly to the consumer from markets or roadside stands. Should these sellers be licensed or regulated in some other way?

There is also a pressing need for greater uniformity in State and Federal grading and packaging requirements. Every State now has grading and labeling laws, and 12 acts of Congress contain grading and labeling provisions.

Federal and State Governments are empowered to impose plant and animal quarantines. Here, again, cooperation is needed to control and stamp out, if possible, plant and animal diseases and pests, and at the same time to avoid unnecessary delay and expense.

Marketing includes not only the physical handling and distribution of farm products but also the prevention or disposal of agricultural surpluses. We have coped with the surplus problem in a good many ways. Through direct distribution, school lunch, and the stamp plan tons of fruits, vegetables, and other products have been made available to those who otherwise would have done without them. Relief shipments, to cash-paying foreign nations or to nations being assisted by UNRRA, have helped to utilize our agricultural abundances. Through diversion, potatoes have been turned into alcohol and starch, and cotton has been used to make insulating materials, high-grade writing paper, and batts for stuffing automobile upholstery.

Regional Needs

When the hearings on the new bill were held, representatives of the agricultural experiment stations, State colleges, farm organizations, and agricultural commodity associations reported the research needs, in both production and marketing, of the various regions and of specified commodities or subjects.

The Northeast, they reported, needs research on the marketing and distribution of milk, fruit, vegetables, eggs, and other regionally produced agricultural commodities; the Newcastle disease of poultry; the Dutch elm disease; legume improvement and pasture management; the functional requirements and proper design of rural homes and farm buildings; fruit and vegetable breeding; and conservation of nutritive values of foods.

The Midwest needs research on hard red winter wheat; range and pasture; inbred strains of poultry; and dairy cattle breeding.

The West, with its extremes of climate and long and short growing seasons, needs research on the production of fruits, vegetables, sugar beets, poultry, livestock, and wool; pasture and range improvement; marketing; and irrigation.

The South and Southwest need research on cotton, peanuts, soybeans, tobacco, and other products--but primarily on cotton. In the Cotton Belt, said a Southern experiment station director, live 9 million cotton producers(to say nothing of 3 million other people) who depend on cotton for a livelihood. The South needs more research on economic adjustments in cotton farming, harvesting, and ginning,and on cotton quality, cotton soils, cotton insects,cotton marketing, and cotton textile manufacturing processes.

One rayon manufacturer alone has about ten times as much spinning, weaving,and knitting equipment as the Southern Regional Research Laboratory of the U. S. Department of Agriculture. The chemical industry as a whole has been spending 2 percent of its gross revenue on research. The gross revenue of farmers from cotton and cottonseed in recent years has averaged about 1.3 billion dollars a year. Two percent of this would amount to 26 million dollars, as compared with the 3 or 4 millions now being spent for agricultural research by public, private, State, and Federal agencies. The numerous small textile manufacturers have depended on their raw material suppliers for research. Since the trend has been more and more toward the development of synthetic fibers, the long-established cotton textile industry is now one of the most backward of all industries in technological progress.

Another field in which much research is needed, as was borne out in the reports given at the hearings, is human nutrition and the nutritive value of foods.

And the feeling that research is needed to point the way toward agricultural progress is country-wide. As one State experiment station summed it up: "Never in our history have we had so much interest and so many demands on the part of our farmers and farm leaders for expansion of our agricultural research programs."

. . .

COTTON

Cotton distribution this season is to be roughly as follows: Consumption, 9.5 million bales; exports, 3.0 million; and carry-over on August 1, 1947, 3.8 million. This would be the smallest carry-over since 1929, when it totaled 2.3 million.

Broadening the Farm Products Market

. . . . By F. L. Thomsen

What is meant by "broadening the market for farm products?"

The expression can be interpreted narrowly, to include only the opening up of new products and uses or the expansion of established uses. Or it can be interpreted so comprehensively as to include an increase in the volume of a product resulting from a reduction of price. Most marketing people probably take the expression to mean anything resulting in an increase in demand--an interpretation that comes pretty close to meaning the same thing as an increase in cash income to farmers.

<u>Three Determinants of Cash Income</u>

Three things, and only three, determine the cash income of farmers from marketing their products in the domestic civilian market. They are:

(1) The total amount in money that consumers have to spend.

(2) The proportion of this total that consumers spend at retail for agricultural commodities.

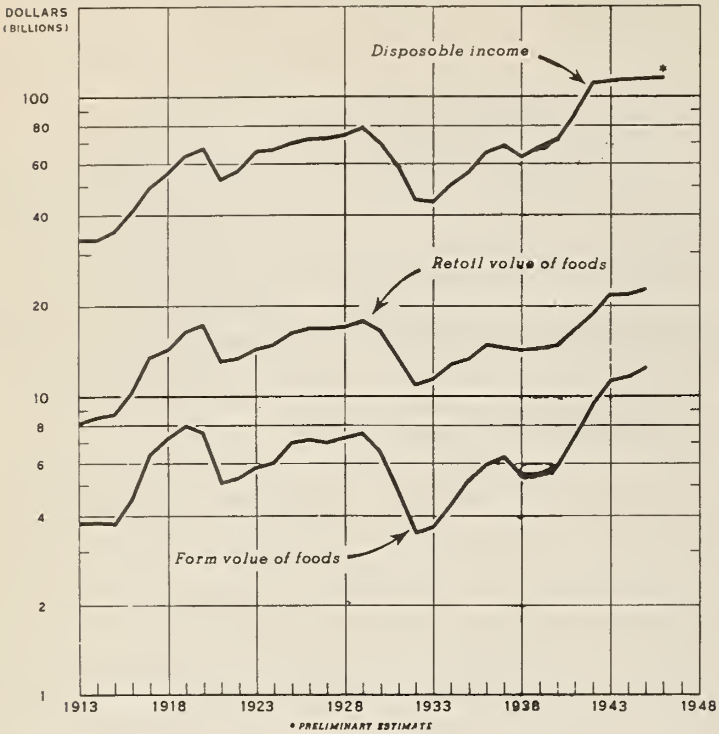
(3) The total of marketing charges to be deducted from these retail expenditures.

A fundamental principle of economics, frequently overlooked, is that you can't get blood out of a turnip. Consumers cannot pay money for farm products if they don't have the money. One way to get more money for farm products--that is, to broaden domestic market outlets for farm products--is to foster conditions that create more consumer income. Of course, for this to bring farmers any lasting benefit the increased purchasing power must be <u>real</u> consumer income and not merely the amount of money in terms of which that real income is expressed.

But consumers do not spend all of their incomes for farm products. What they do spend, and what the farmer gets for farm food products out of their incomes, is pictured in figure 1. We have no record of the total amount, nor of the proportion of their total income, that consumers have spent for all products of the farm including foods, textiles, tobacco, beverages, and industrial products made from agricultural raw materials. But we have a measure of the proportion of consumer income spent for all food, by years, from 1929 until now. And we know the proportion of the consumer income that was needed to buy a fixed quantity of food, from 1913 until now. These data are shown in figure 2.

The part of their income that consumers have actually spent for food has remained remarkably stable over all these years. The highest percentage spent for food in any year since 1929 was 27 percent, in 1930,

NATIONAL VALUE OF MARKETINGS OF FARM FOOD PRODUCTS AT RETAIL LEVEL, VALUE RECEIVED BY FARMERS FOR EQUIVALENT PRODUCE, AND NATIONAL DISPOSABLE INCOME, 1913-46



U. S. DEPARTMENT OF AGRICULTURE NEG. 46118 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 1

and the lowest was 21 percent, in each of the 5 years beginning with 1940. Since 1935, when the country emerged from the bottom of the depression, the annual average percentage figures have fluctuated in the narrow range between 21 and 23.

During all these years, a great many changes have come about in the constituents of the food supply, in the economic and other conditions relating to food production and marketing, and in the economic circumstances of consumers. Yet the changes have made relatively little difference in the percentage of income spent for food. The consumer wants food, but he also wants houses, automobiles, recreation, and a lot of other things. Rather than give up any one of them he will cut down on his spending for other items if something happens to reduce his income. And if his income is increased, he tends to distribute the increase among the various expense items in such a way that the percentage he spends for food is relatively fixed.

This stability might indicate, at first glance, that it is hopeless to try to increase farm incomes by broadening market outlets at the retail level. Apparently it would require more than a superficial advertising campaign urging consumers to "eat more spinach," or a chain-store merchandising campaign featuring surplus potatoes, or the invention of some new manufactured food product, to cause any important increase in the part of their incomes that consumers are willing to spend for food.

But although increases in consumer expenditures for one kind of farm product are likely to be offset by decreases in expenditures for another, and although it would require some very decisive marketing developments to change very much the percentage of consumer income going for food, it is also true that even a small increase in this percentage would cause a considerably larger increase in returns to farmers. For example, if the consumer income were 150 billion dollars, and 21 percent of it were spent for food, an increase to 21.5 percent would amount to

about three-quarters of a billion dollars. This would represent about a 7.5 percent increase in the cash income that farmers received from the sale of farm food products. Hence, an increase of even one-tenth of 1 percent in the percentage of consumer income spent for food would affect the cash farm income substantially.

The money that consumers spend for food is spent at retail. What the farmer gets is this total expenditure less the total marketing charges by middlemen. These charges pay for all the services rendered in marketing, including processing and transportation. Figure 3 shows, for the years 1913 to 1946, the retail value or cost of a market basket of food, the portion of this amount that goes to the farmer, and the portion absorbed by marketing charges. On the average the farmer receives somewhat less than half of the consumer's dollar.

And here again the situation has been remarkably stable. Notwithstanding the important changes that have occurred in economic conditions since 1933, absolute marketing charges for a representative family's annual market basket of food have fluctuated only from $189 to $228, a fluctuation very much smaller proportionately than that in the retail cost of the market basket or in the amount that farmers received for the food in the basket. When prices of farm products drop precipitately in depression years it is not because the amount of middlemen's charges has changed. The fact that these charges have remained so stable indicates that to increase the farmer's return or to broaden market outlets at the farm by increasing marketing efficiency and reducing marketing costs is a very difficult task.

It might be well if we should apply to every proposal for improving cash farm income the test of whether

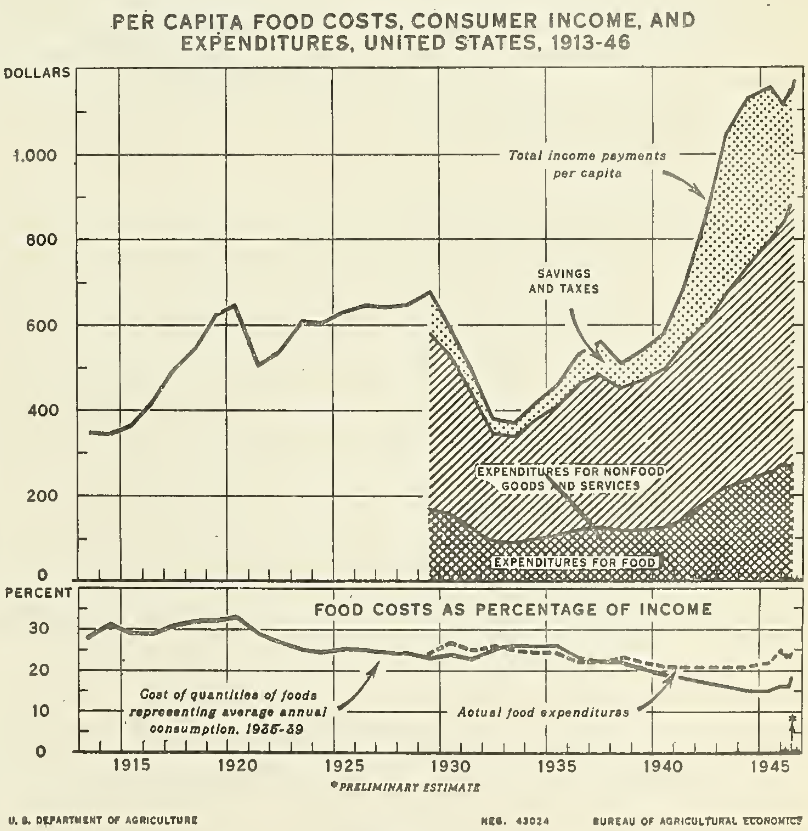


FIGURE 2

it contributed significantly to the total consumer income available for spending, to the percentage of consumer income spent for products of agricultural origin, or to the reduction of the total marketing charges between farmer and consumer. Only if it does one or more of these three things will it add to the over-all cash farm income from the domestic market. Such a test would greatly simplify discussions of the merits of the multifarious schemes for improving market outlets or expanding the demand for farm products.

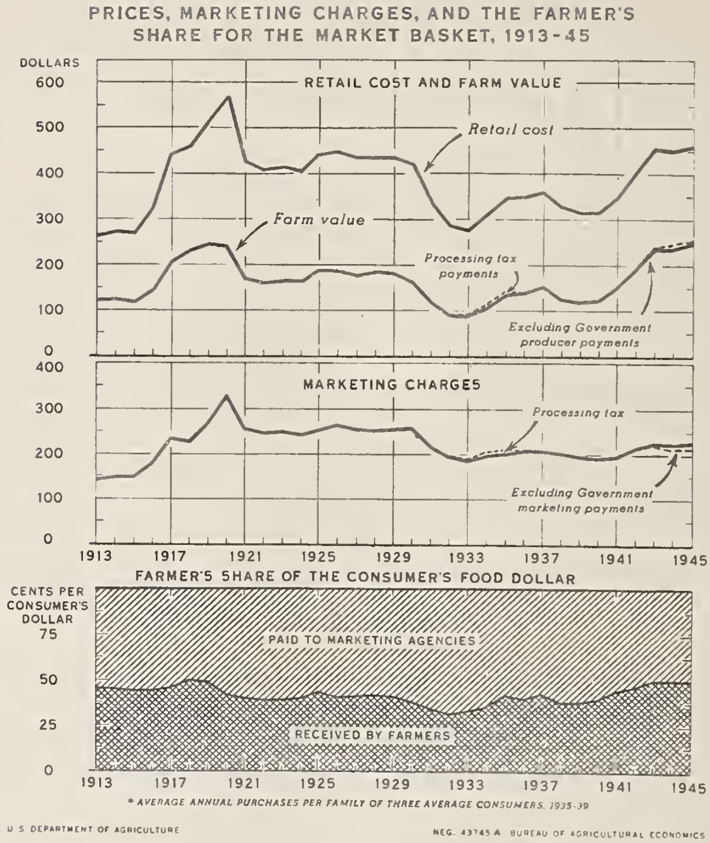


FIGURE 3

The most feasible of the three ways of broadening the market for farm products seems to be to influence over-all economic activity so as to result in a greater total of the income that consumers have to spend for food and other things. Action to accomplish such a result has greater possibilities than has action to influence either the percentage of income spent for food or the percentage of retail food expenditures skimmed off by marketing agencies. The farmer's interest in the maintenance of a high level of industrial employment and production is not merely academic. It is as real and direct as that of bankers, businessmen, and people in general.

If marketing measures of the various sorts proposed and put into operation are to expand over-all domestic market outlets for agricultural commodities, they must either increase the proportion of consumer income spent for these products or they must decrease the total marketing charges. Of course, producers of any one commodity, or growers in any one section, may benefit at the expense of producers who live in other areas or who produce other products, without affecting the total demand for farm products or the total income from the sale of farm products. A considerable part of the recommendations and programs for helping farmers are apparently of this sort. They would help one group of farmers at the expense of another. To induce consumers to buy more fresh fruits and vegetables in January, for example, might benefit growers of fresh

products in Florida, but it might not broaden the over-all market for fruits and vegetables, to say nothing of the market for farm products as a whole. Over-all retail outlets would not be broadened unless consumers spent a larger part of their income for food.

Is it likely, then, that by conducting action programs in marketing, by developing new marketing technology, or by improving merchandising practices, we can significantly increase the fraction of the total consumer income spent for farm products or the fraction of these expenditures that it takes to defray marketing charges?

Technological Developments

The marketing developments considered most likely to expand consumer expenditures for farm products include a host of new technological developments such as new processed foods, the increased industrial utilization of agricultural raw materials, advertising and promotional programs, improvements in quality and associated factors such as grading, and Government marketing programs of various kinds.

The comparatively new marketing developments now receiving so much attention, such as frozen foods, prepackaged fresh fruits and vegetables, precut meats, and new kinds of processed products or byproducts such as citrus concentrates, have various advantages. Some of these developments, like the freezing of meats, may help eventually to reduce marketing costs. But do they offer much promise of increasing the proportion of consumer income spent for farm products?

The prepackaging of fresh fruits and vegetables has greatly increased the sales of fresh produce in most of the retail stores that have adopted the practice on an experimental basis, and its advocates believe that by making fresh produce more convenient and attractive it can materially boost total sales. Advocates of other improved merchandising practices for fresh fruits and vegetables hope for the same result from their methods. The freezing of meats, by making meat more easily available to consumers throughout the year and more convenient to store in the home and to prepare, is expected by enthusiasts eventually to expand meat sales. Air transport is urged as a means of improving quality and getting highly perishable products to northern and eastern consumer markets, and thus expanding market outlets. The citrus industry is hopeful that new processed products such as frozen orange juice and citrus concentrates will expand the domestic consumption of its products, and the demand for them.

Unfortunately, it does not seem possible that the human stomach and the consumer's pocketbook are large enough to permit the realization of all these hopes. To a large extent, increases brought about by such means in the consumption of any product are likely to reflect shifts from some other product or marketing channel. Such increases may benefit one group

of producers or marketing agencies without adding to the over-all demand for agricultural commodities.

This is not to say that these new developments are unimportant, or that they may not be a matter of great interest to particular groups of growers, shippers, processors, or distributors. The fact is that they will affect all these groups vitally by altering the competitive relations within the producing and marketing systems. And the consumer will receive benefits from the added convenience, palatability, and nutritional qualities of foods processed or merchandized in the new ways--benefits that will amply justify introduction of the new methods quite aside from their effects on market outlets and farm income.

But in addition to these considerations, the new marketing developments may be expected to contribute something to the expansion of market outlets, even though the over-all effect is much less than a summation of expected individual effects might indicate. Not all the resulting consumption or demand increases will be offset by decreases in the consumption of or demand for other products. At the least, these improvements may help to prevent or minimize a decline in the percentage of consumer income spent for food as industrial production recovers and many new consumer goods of industrial origin reach the market.

New Uses

New industrial uses for farm products represent a real addition to market outlets because they are usually not offset by decreases in the demand for other agricultural commodities. This would not always be true of new uses, however, as for example if new automobile seat coverings made in part of casein were substituted for coverings made of mohair or wool. Generally, new industrial uses represent a net increase in the percentage of consumer income spent for farm products. Yet when viewed realistically and in the light of needs, the prospects of net benefit from the development of new uses are not very bright.

At the same time that Government researchers and other researchers are developing new uses for agricultural products, industry is conducting research to find cheaper and better sources of raw materials. Oftener than not, these new raw materials turn out to be nonagricultural rather than in agricultural origin, and their utilization is a net loss to agriculture rather than a net gain.

Even without reference to these offsetting shifts to nonagricultural raw materials, the outlook for an increased industrial utilization of farm products is none too bright. Innumerable new products and uses have been developed in the laboratories, but thus far in almost all the important cases commercial exploitation of them is impossible because competitive costs are too high. A gadget made from soybeans adds little to farm income if it cannot be produced cheaper than one from nonagricultural materials. Motor fuel from corn remains a laboratory curiosity, if

corn cannot be produced as cheaply as crude oil. The benefits to farmers from the search for new industrial applications may be considerably greater than the cost of the development research; yet the over-all effect on farm income may be negligible. So far, we have no reason for great optimism about industrialization of farm products, and overoptimism would do a disservice to the laboratory technicians engaged in this work as well as the farmers. On the other hand, the possibilities of laboratory research are certainly enough to justify its intensification, the cost of which would be small in relation to even modest benefits.

Advertising and sales promotional programs of different kinds have been offered to producers as a means of expanding market outlets. Many of these programs, unless they are tied in with specific products, brand names, quality control, and merchandising programs, are simply a waste of money. Some promotional campaigns based on marketing programs as well as advertising can be effective in broadening market outlets for particular products or in particular areas. But whether the total of such campaigns can materially expand the proportion of consumer income spent for food, or substantially broaden agricultural markets as a whole, is doubtful.

Improvements in Quality

Market outlets may be expanded to some extent through improvements in the quality of farm products or their derivatives. For example, modern finishes applied to cotton textiles may assist in meeting the competition of rayon, and improvements in butter quality brought about by the use of sweet cream or better procurement methods for sour cream may help to stem the competition of butter substitutes. Yet it is doubtful that these quality improvements can do much to expand the over-all demand for farm products, or even for large groups of commodities such as dairy products. Consumers will pay more for the top 10 percent of a product, but if the quality of the remaining 90 percent were raised until it was as good as the 10 percent, the price premium would disappear, leaving an average price little if any above the original price. And even if the average price rose somewhat, the rise would reflect in part a shift of demand from other foods.

Nor does it appear possible to change greatly the percentage of consumer income spent for food under any kind of scarcity program in which the Government might engage. If supplies of farm products were greatly reduced, prices would rise as consumers struggled to obtain their customary amounts of the supplies available. But the consumers would continue to want to spend the customary proportions of their income for housing, recreation, and other items. The net result probably would be the expenditure of about the same amount of money for a smaller supply of food. Prices may be held up by removing products from the market through purchase programs or by not producing products, but the possibilities of materially increasing total consumer expenditures for food by such means are far from promising. This should be kept in mind when efforts are being made to bolster market outlets for farm products in times of decreasing demand and weakening commodity markets.

But what about marketing developments that are designed to reduce the costs of marketing and hence to leave for the farmer a larger proportion of consumer food expenditures? Here we must distinguish between gross and net results. A good many things have been done to reduce costs of marketing, but the reductions have been offset by other conditions. Advancing standards of living, the centralization of urban population, and technological progress have called into existence many more marketing services than were rendered half a century ago or even a decade ago. These developments have added to marketing costs and may have helped to induce consumers to maintain expenditures for products of farm origin against increasing competition from nonfarm goods and services. Basically, however, these improved marketing services--and they have been innumerable--have been as a whole for the benefit of consumers rather than producers. As a net result, the new marketing services have more or less offset the economies. This does not in any way lessen the importance of the economies, for without them marketing charges would have been even higher and farm income correspondingly lower. But merely offsetting is not enough.

Reducing Retailing Costs

There is no doubt that marketing costs would be substantially reduced if producers, middlemen, and consumers were willing to take the steps that could be set forth on the basis of what is known today. For example, take the record in retail merchandising. The cost of retailing is by far the largest single item in the total spread between the farmer and the consumer for foods, as shown in figure 4. For some commodities it absorbs almost half of all marketing charges. On the average, it amounts to about a fourth of the consumer's dollar and nearly 40 percent of total marketing charges. At one time it was thought that little could be done to reduce retailing costs. Then came the self-service chain supermarket, which cut the prevailing costs by half--in some cases even more.

These economies were made possible primarily by increasing the volume of operations per unit through new merchandising methods that made more customers willing to patronize individual stores, by introducing self-service methods that reduced the cost of labor and other items, and by many little efficiencies that resulted from the application of centralized management and practical merchandising research.

This research was quite different from what was considered as marketing research in professional circles. In fact, the workers generally did not look upon their accomplishments as research at all. It did not involve academic descriptions of marketing processes or lengthy reports containing many dot maps and tables. The essence of this research, which proved so effective in practice, was to develop ideas by original thinking and then try them out under practical operating conditions. Hardly a month passes in a modern supermarket that a little piece of research of this kind is not conceived, executed, and put to use.

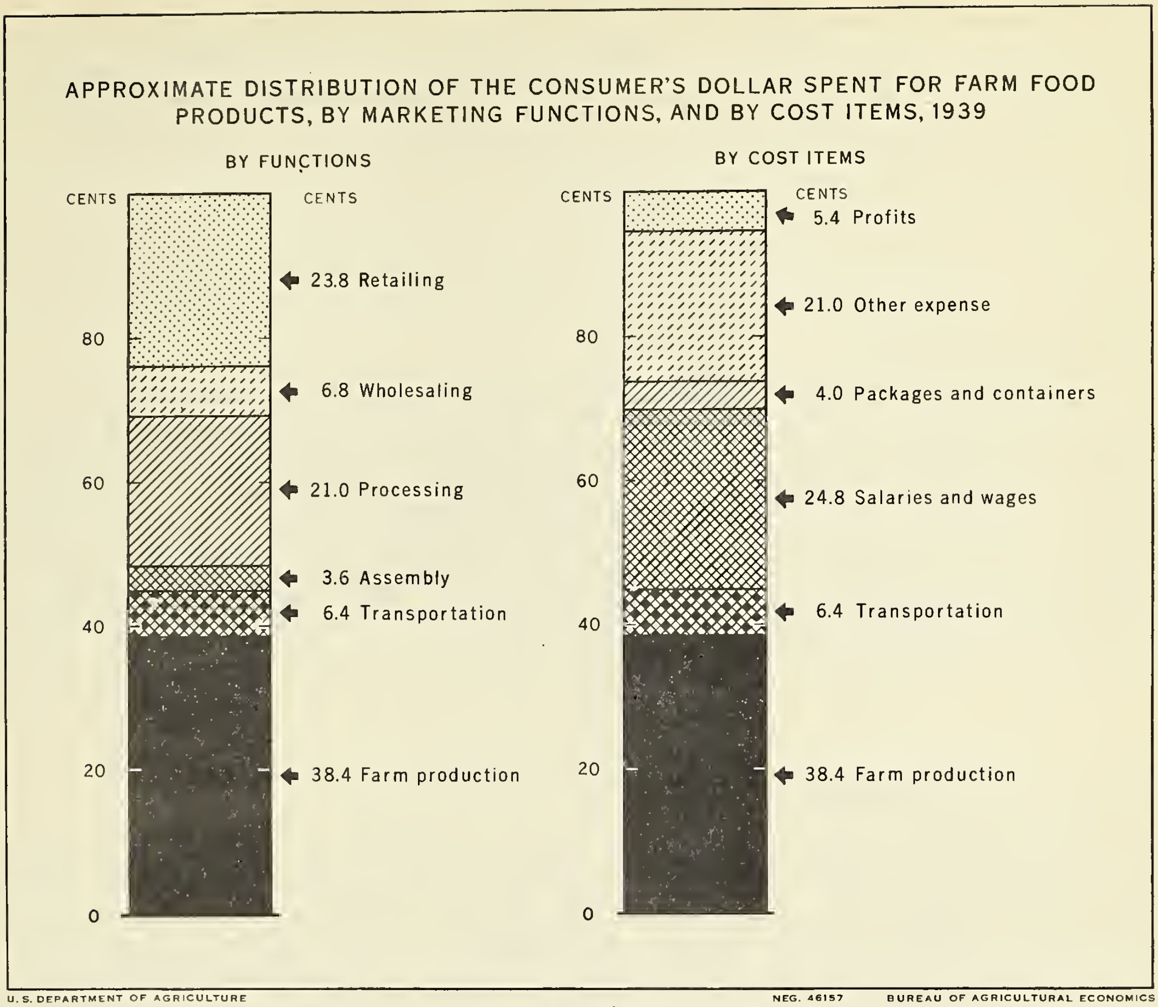


FIGURE 4

Now, there is unlimited room for marketing improvements through such practical research as this and follow-up educational programs for putting the information into the hands of those who can use it. Businessmen engaged in marketing realize this, and are becoming more and more interested in the systematic development of improved ways of doing the daily tasks of marketing. And more and more professional researchers are doing work that promises to make a real contribution toward increasing marketing efficiency. For example, one State experiment station recently completed research indicating that by a rearrangement of machinery and labor operations, the direct labor costs in a tomato cannery might be reduced by half.

If this research and educational work is to decrease marketing costs materially, it must be aimed at those parts of the marketing system where the major costs are incurred. Work at the farm end of the marketing system, no matter how effective, can never make much of a reduction in marketing costs because only a very small part of these costs

are incurred near the farm. We must try to cut the costs of retailing, wholesaling, transportation, and processing if we are to get very far. Fortunately, Congress has made it plain, in the Research and Marketing Service Act of 1946 (see p. 3), that it wishes the U. S. Department of Agriculture and the State agencies to cover the entire field of marketing--from the producer to the consumer.

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LIVESTOCK AND MEAT

The border quarantine against Mexican cattle was lifted October 18, with a resumption of cattle imports from Mexico on the same basis that prevailed before the quarantine became effective on June 5. An import tariff of $1\frac{1}{2}$ cents a pound remains, and no import quotas. Because Mexico has no meat inspection system that satisfies U. S. inspection requirements, no meat can be imported into the United States. Mexican cattle for slaughter must be brought into this country alive. Nearly all Mexican cattle imports are feeder cattle.

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MATERIALS AND EQUIPMENT

Farmers can expect a shortage of burlap bags during late November, all of December, and early January--perhaps longer. The reason is the unresolved situation in jute and jute products from India. Cuba and Puerto Rico are short 21,000 long tons of sugar sacking each. The State Department is working on the problem.... The pipe situation remains tight for farmers. Housing is taking the biggest cut of available pipe, and there is a short supply for farm water systems, milking machines, and farm machinery. The North Central States are most in need. ... Veterans received 58,032 preference certificates for farm items between August 20 and September 20. This brought the total of veterans perference certificates outstanding to 123,000.... CPA has hopes that the steel companies will turn out enough flue sheet tins in time for the 1947 tobacco crop.

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TOBACCO

Discussions of the dark air-cured and fire-cured tobacco loan schedules for the 1946 crop were to be held in Washington on October 19 between representatives of the tobacco trade and PMA.... The over-all record tobacco crop report recently issued causes no particular concern except in the case of burley tobacco, which is in surplus.

Icing the Load

. . . . Brice M. Mace, Jr.

The increased movement of perishable commodities during the last year and a half turned the heat on the ice supply. Although ice production had risen steadily since 1941, when 35,034,210 tons were produced, to 52,583,675 tons in 1945, there still hasn't been enough to go around.

In the first place, in the last 30 or 40 years there has been a steady increase in the per capita consumption of the "protective foods" such as dairy products, citrus fruit, and leafy, green, and yellow vegetables. This is the result in part of industry advertising and of the spread of nutritional information in this country. Between 1909 and 1946, according to preliminary estimates for 1946 as of September 30, per capita consumption of groups of these foods has increased as follows: Dairy products (excluding butter), milk equivalent, 169 quarts to 265; citrus fruit and tomatoes, 44 pounds to 117; leafy, green, and yellow vegetables, 77 pounds to 133; and other fruits and vegetables, 211 pounds to 250. The shipment of these perishables takes ice and lots of it.

Pacific War Needs

On top of that increase, when the war ended in Europe and was intensified in the Pacific, it became necessary to move more perishables westward in order to service hospital and troop trains and military establishments. At the same time, California and other west coast States were in the midst of their fruit and vegetable marketing season. The double tide of perishables sweeping from coast to coast in both directions took a heavy toll of the ice reserves that had been stock-piled during the previous winter and spring.

To prevent food losses, representatives of the Department of Agriculture and the Interstate Commerce Commission met with railroad and car-services officials to take stock of reserves and current production capacity, and to consider the amount of additional ice needed for Pacific coast perishables.

To assist in obtaining maximum ice production, the Department of Agriculture took steps to get additional manpower for ice plants. The Secretary of Agriculture cooperated with the National Association of Ice Industries in an effort to get maximum capacity from the entire ice industry during August and September 1945 and to rush ice to needy transportation companies.

The Department attempted to determine whether ice-making facilities of California cooperative citrus packing plants not then in use might not be leased to transportation companies and ice companies. Since these local cooperatives are not subject to the minimum wage and maximum hour provisions of the Fair Labor Standards Act, there was a question whether

such an arrangement would bring the cooperatives under this act. A ruling was asked. Meanwhile, USDA field offices were busy locating available ice for trouble spots.

The Secretary of the Treasury ruled that citrus associations could lease their ice-producing facilities for operation by railroads without losing their income tax exemption, if such a procedure would prevent food spoilage. A verbal opinion was obtained from Wages and Hours Division of the Department of Labor to the effect that if railroads, ice companies, and car companies should install their own operating crews in cooperative ice plants, the lessee, and not the leasing association, would be subject to minimum wage and hour regulations.

The Office of Price Administration cooperated with the Department of Agriculture in its attempts at getting equitable distribution of available ice supplies by suspending price ceilings on open-market purchases of car ice until October 1, 1945. This action plus amendment of its definition of car ice sales to include ice sold to transportation companies for their own use made it easier for such concerns to get the ice they needed.

By the middle of August supplies had increased 30 percent. During the emergency period the Department was able to inform railroads, car service companies, and perishable food shippers of the availability of more than 411,000 tons of ice.

Intermittent Shortages

But ice shortages continued to harass shippers intermittently. Department of Agriculture representatives and the Civilian Production Administration held a series of conferences early in 1946 and were able to bring about an improvement in the equipment situation for the maintenance of existing ice plants and for new plant construction.

Meanwhile, a number of surplus 15-ton ice plants were scheduled for distribution by War Assets Corporation. The Department of Agriculture recommended that most of these surplus plants be allocated to areas south of the 37th parallel--roughly the lower half of the United States --where ice is needed during more months of the year and the small-sized plants would meet the needs of many small- and medium-sized cities.

Priority assistance was obtained for the erection of a new 460-ton ice plant at Nampa, Idaho, to help meet the peak demand in this area in September and October 1946. With the new plant in operation, only about half the ice that moved into the Boise Valley in 1945 needs to be shipped there in 1946. Ice plant priorities were approved for new plants at Yakima and Pasco, Wash.; Bakersfield, Stockton, and San Bernardino, Calif.; and Phoenix, Ariz., early in 1946.

The production of ice cans declined during last April and May because of difficulties in the steel and coal industries. The shortage of

these cans, in which the ice is frozen, hindered completion of new ice plants and additions to existing plants.

Besides manufactured wet ice, 1,116,877 tons of natural ice moved in 1945, as compared with 1,064,707 tons in 1944. Seasonal ice storage capacity in 1945 was 4,198,840 tons.

Dry Ice

The total production of dry ice also increased in 1945. A new plant capable of producing 80 tons a day was in operation in southwestern Virginia. A plant with a 45-ton daily capacity is expected to be in operation at Oakland, Calif., this fall.

Dry ice is a solidified carbon dioxide product obtained from coal, limestone, distillation fermentation processes, or the natural carbon dioxide gas from wells. Since June 1946 there has been a serious curtailment of carbon dioxide from distilling operations that normally produce 26 percent of the dry ice manufactured.

Although some potatoes were diverted for alcohol production, this action did not materially relieve the shortages of grain and molasses, the products generally used for this purpose. The Northeast has been particularly hard hit by these shortages, because about 43 percent of the dry ice used in that area is produced by fermentation processes.

Refrigerator Car Icing

It takes a great deal of ice to service the refrigerator cars that roll in this country. The cars are built with bunkers or special compartments that when filled with ice keep foods at proper temperatures all the way to their destination. For certain commodities, bunker ice isn't enough. Additional ice is placed in contact with the commodities, or over them. "Package" ice may be placed in the package with the produce, or "pigeonhole" ice between the packages, or "top" ice over the top of the load, or "body" ice with the load in the body of the car.

For standard refrigeration the bunkers are filled to capacity before loading and refilled at icing stations, usually once in 24 hours. In shipping certain perishables such as lettuce and some other vegetables that are not injured by being shipped wet, ice is used in direct contact with the product.

The U. S. Department of Agriculture has carried on extensive investigation to determine the best method of icing various products while they are in transit. For example, Department research men have learned that oranges can be refrigerated successfully by means of "half-stage" icing--that is, when only the top half of the car bunker is filled with

ice. Use of the method makes possible to the industry annual savings estimated at nearly a million dollars on California orange shipments alone.

Another piece of recent Department icing research is a study of the shipment of nearly ripe melons. In addition to bunker icing, these melons get top and body icing. As a result, the melons reach consumers at their best in quality and at a uniform degree of maturity. Also recently reported are USDA icing studies of the handling and shipping of early potoes and cantaloupes.

The Department is cooperating in studies of transportation icing with the research department of the National Association of Ice Industries. Twenty agricultural colleges and universities also cooperate with the association in studying the effect of ice refrigeration on the nutritional value, vitamin retention, flavor, and appearance of fresh vegetables. There is a growing interest in the use of crushed ice to preserve the freshness of fruits and vegetables in retail markets.

The Department also prepares monthly forecasts of the movement of perishables that require refrigerator cars. These products include fruits and vegetables, meat and meat products, butter, cheese, eggs, margarine, dressed poultry, beverages, canned cheese, and canned milk. In addition to the forecasts, a firm estimate of actual refrigerator-carload movements is made. The forecasts and estimates are supplied to the ice industry, the Refrigerator Car Advisory Committee, and the Association of American Railroads, as well as the Interstate Commerce Commission, the Office of Defense Transportation, and other agencies.

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FRUITS AND VEGETABLES

The special loan program for potatoes in emergency storage has been extended to 4 more States—Iowa, Pennsylvania, Rhode Island, and South Dakota--making 19 in all.... The size regulation on Florida oranges under the citrus agreement program has been eased slightly. Because cannery outlets are insufficient, the interestate shipping of size 288 has been allowed beginning October 19.

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LABOR

In keeping with its policy of lifting controls wherever possible, PMA will recommend rescinding most agricultural wage ceilings. It will ask immediate removal for areas and crops that are well past seasonal busy periods. The recommendation will not extend to citrus and cotton crops, which are now actively in harvest.

ABOUT MARKETING:

The following addresses and publications, issued recently, may be obtained upon request. To order, check on this page the publications desired, detach and mail to the Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

Addresses:

Farm Prices and Agricultural Welfare, by Clinton P. Anderson, Secretary of Agriculture, over Radio Station KOB, Albuquerque, New Mexico. September 24, 1946. 7 pp. (Mimeographed)

Department of Agriculture Responsibilities Under the Present Price Control Act, by E. A. Meyer, Assistant Administrator, Production and Marketing Administration, at Savannah, Georgia. October 1, 1946. 6 pp. (Mimeographed)

Publications:

National School Lunch Program. PA-19. (PMA) August 1946. 4 pp. (Multilithed)

A Survey of Cold Storage Space as of October 1945. (PMA) August 1946. 29 pp. (Multilithed)

Livestock Slaughter and Meat Statistics. Compiled by the Analysis Section of the War Meat Board, 1942-46. (PMA) August 1946. 56 pp. (Multilithed)

Some Aspects of Raw Cotton Quality of Interest to Textile Manufacturers. (PMA) July 1946. 12 pp. (Multilithed)

Relationships Between Properties of Cotton Fibers and Percentages of Wastes Associated With the Manufacture of Carded Yarns. (PMA) July 1946. 63 pp. (Multilithed)

Techniques, Costs, and Margins in Distributing Cotton Products. (Bureau of Agricultural Economics) July 1946. 78 pp. (Multilithed)

Readjustments in Processing and Marketing Citrus Fruits. (Bureau of Agricultural Economics) July 1946. 190 pp. (Multilithed)

United States Tariff Rates on Agricultural Products (Revised). A complete history of each rate from September 1922 to May 1946 (Bureau of Agricultural Economics) August 1946. 131 pp. (Mimeographed)

Changes in Farming in War and Peace. FM 58. (Bureau of Agricultural Economics) June 1946. 99 pp. (Multilithed)